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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,992	02/08/2002	Takafumi Nakahama	065905-0248	9942
22428	7590	10/03/2003	EXAMINER DUONG, THO V	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			ART UNIT 3743	
			PAPER NUMBER	

DATE MAILED: 10/03/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/067,992

Applicant(s)

NAKAHAMA, TAKAFUMI

Examiner

Tho v Duong

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspond nc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-17 is/are pending in the application.
- 4a) Of the above claim(s) 3-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: _____

DETAILED ACTION***Election/Restrictions***

Claims 3-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election of species of figure 2 was made **without** traverse in Paper No. 9. The examiner does not agree with the applicant that claim 17 is generic and does read on the elected species of figure 2. Claim 17 does not read on the elected species of figure 2 because the elected species does not have "a header wherein one or a plurality of holes are respectively provided in wall faces on both sides...gaps being provided on both sides of said headers". The examiner believes that claim 17 reads only on the non-elected species of figure 18. Therefore, claim 17 is further withdrawn from further consideration.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: the reference signs "Sh" and "Sz" are mentioned on page 9, at lines 1-4, in the specification but are not shown in the drawings. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Quon et al. (US 5,316,076). Quon discloses (figure 1 and column 2, lines 35-69) a cooling device (10) for a heat source comprising a heat sink including a coolant, the heat sink comprising a first heat sink member (16) with a heat source (18) arranged at an outer surface of the first heat sink member (16); and a second heat sink member (14) provided with a plurality of holes (36-46) in which the coolant that cools the heat source (18) being made to pass through the holes (36-46). The cooling device (10) further comprises a header (12) configured to an opposite side to the heat sink member (16) about the second heat sink member (14) as an axis; an inlet port (26) whereby the coolant is made to flow into a first space (28) surrounded by the header and the second heat sink member (14); and an outlet port (48 or 34) whereby the coolant in a second space (50) surrounded by the first heat sink member (16) and a second heat sink member (14) is made to flow out.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Galyon et al. (US 5,016,090) discloses a cross-hatch flow distribution that has an impingement cooling arrangement.

Fahey et al. (US 5,239,443) discloses a blind hole cold plate cooling system.

Crowley et al. (US 6,397,936) discloses a header between two heat sink members.

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Hulburd et al. (US 5,263,536) discloses a miniature heat exchanger with impingement cooling arrangement.

Nakajima et al. (US 5,270,572) discloses a liquid impingement cooling module for semiconductor devices.

Karz (US 5,631,676) discloses a parallel flow water cooling system for printbars.

Katsuhiko (EP 0673,066A1) discloses a heat sink that has two heat sink members with an impingement cooling arrangement.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703)308-7764.

Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0861.

TD

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September 26, 2003

A handwritten signature in black ink, appearing to read 'Tho Duong', with a long horizontal line extending to the right.

Tho Duong

Patent Examiner.